

a/A Ratios

- Purpose: To provide accurate and timely diagnostic information to the medical staff.
- Description: "a/A" is the ratio of the partial pressure of arterial oxygen to the partial pressure of oxygen at the alveolar level. They are to be reported with each arterial blood gas.
- Indications: Arterial blood gases.
- Equipment:
1. Arterial blood gas supplies.
 2. Bayer 800 series blood gas machine.
- Personnel: Respiratory therapists and technicians.
- Procedure:
1. Draw arterial gas sample.
 2. Insert syringe into sample port.
 3. Press "ANALYZE". Sample will aspirate.
 4. Remove sample device.
 5. "Patient Information" box will appear.
 6. Cue down to FiO2
 7. Enter delivered FiO2 in whole numbers.
 8. Press "Done".
 9. Analyzer will calculate a/A ratio. Report results on flowsheet.
- Infection Control:
1. Universal precautions should be followed during this procedure.
 2. Personal protective equipment should be worn during this procedure.
- References: a/A Ratio =
$$\frac{\text{PaO}_2}{713 \times \text{FiO}_2 - \text{PaCO}_2 \times \left\{ \text{FiO}_2 + \frac{1 - \text{FiO}_2}{.8} \right\}}$$

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